

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Division of Forestry and Wildlife  
Honolulu, Hawaii 96813

May 23, 2008

Chairperson and Members  
Board of Land and Natural Resources  
State of Hawaii  
Honolulu, Hawaii

Land Board Members:

**SUBJECT:** Request for Approval of the Design and Placement of Warning Signs on Improved Public Lands (Kula and Kahikinui Forest Reserves, Polipoli Springs State Recreational Area TMK (2) 2-2-007:001), Pursuant to Act 82, Session Laws of Hawaii, 2003.

**Background:** Act 82, Relating to Public Land Liability, Session Laws Hawaii 2003, established a process for installing and maintaining warning signs on improved public lands and provides the State and Counties with protection from liability for damages caused by the dangerous natural conditions that are identified through the signage. Improved public lands, as defined by Act 82, are designated as part of the DLNR State Park system, parks, and pathways under Chapter 184 HRS, or as part of a county's park system, and lands which are part of the Hawaii Statewide Trail and Access System (Na Ala Hele) under Chapter 198D HRS.

The signs have been designed and the locations identified pursuant to Chapter 8 of Title 13, Hawaii Administrative Rules (HAR), entitled "The Design and Placement of Warning Signs on Improved Public Lands" (Exhibit 1). The design guidelines embedded in Chapter 8, HAR are based substantially on the design guidelines of the American National Standards Institute (ANSI). Pursuant to Act 82, the Board is to review and approve of the design and placement of these signs

**Discussion:** During the period of January 23 to February 5, 2007, a wildfire burned approximately 2300 acres of forested public lands within Kula and Kahikinui Forest Reserves. In terms of size and intensity, this wildland fire event was one of the most devastating to have occurred for many decades in Hawaii. The burn unit was dominated by mature closed canopy forest comprised of primarily of pines, cypresses, and redwoods. Approximately 1800 acres within the burn unit were severely burned with little remaining live vegetation. Although scores of hazard trees have been removed from along the access roads and trails, thousands of mature trees were burned and are still standing, posing a potential hazard for users who deviate from the access roads and trails, such as hunters. This is a condition that will persist for many years to come. Due to the potential for years of constant mitigation, simply removing the hazard is not a

tenable management action, unlike isolated hazard trees located along trails that can be simply removed expediently with existing staff.

Both Kula and Kahikinui Forest Reserves contain Na Ala Hele trails and Polipoli State Park lies completely within the boundaries Kula Forest Reserve. The proposed warning signs are intended to warn of dangerous natural conditions related to hazard trees to members of the public who utilize roads and trails to access these areas, and for public hunters who retrieve game from the interiors of the forest reserves.

The Na Ala Hele (Maui) Advisory Council reviewed the pictogram and a preliminary sign design on February 20, 2008 and found the image and verbiage to be satisfactory. The sign design has been circulated for public comment; on March 28, 2008, a press release was issued and a public notice was posted in the Maui News and the Honolulu Star Bulletin. Sign designs were posted on the DOFAW website and comments were invited from the public from March 28 to April 10, 2008. The initial pictogram image was largely based on the previously approved “falling rocks” warning sign. Two public comments were received; one suggested a change in wording, which was incorporated into the design of the site-specific sign, and the other was inappropriate. The respective RAWG representatives were sent the sample design for review. A RAWG member suggested a minor change to the pictogram image for clarity and to make the image site specific for the Kula Forest Reserve Area.

There are two signs submitted for your review:

### **1. Trailhead or Forest Reserve Area Entrance Signs**

Pursuant to Chapter 8 HAR, these signs are to be located at entrance points such as roads and trails and are used to alert users that they will encounter a potential natural hazard, in this case falling trees and branches, along the trail or in the interior of the Forest Reserve or State Park area. These signs are based on the design guidelines, but because they may be located away from an actual hazard, the text simply reflects that the trail or area contains the hazard and the possibility of injury.

### **2. Site Specific Management Signs**

Pursuant to Chapter 8 HAR, these signs are to be located as close as possible to the potentially dangerous natural condition and depict the hazard, the degree of injury, and means to avoid the hazard.

### **Sign Placement Criteria**

**The following guidelines have been used for determination of the placement of signage:**

1. Traffic patterns and managed access points of people accessing the improved public lands shall be considered when placing signs. The type, frequency, and location of incidents or potential public exposure relating to specific dangerous natural conditions when known shall be considered when placing signs.
2. The signs shall be placed at or near access points, along vehicle and pedestrian traffic

corridors in clearly visible locations placed as closely as possible to the potentially dangerous natural conditions on improved public lands and at managed and designated entrances where the signs will be seen as users enter improved public lands. View sheds, aesthetics, and feasibility of installation shall be considered in the placement of the signs. Signs shall be installed with consideration for the average adult line of sight but outside of the general path of travel to avoid physical contact with the signs. Signs may be attached to posts or by any other method of installation depending on the nature of the location and terrain.

3. Sign dimensions at managed entrances to improved public land adjacent to parking areas and other locations accessible by vehicles shall be a minimum of eighteen inches by twenty-four inches. Sign dimensions at remote, interior locations and boundaries accessible by pedestrians of improved public land shall be a minimum of twelve inches by eighteen inches.

### **Hazard Signs Associated with the Potential Hazard of Falling Trees**

*Hazard signs are intended to warn of potentially dangerous natural conditions and/ or modify public behavior*

1. Warning  
Falling Trees!  
This trail or area contains this hazard.  
If you proceed, be alert! Trees and branches may fall without warning causing serious injury or death.

*This is an entrance sign, which is to be posted at entry points to State lands or trails that contain the potential hazard of falling trees and branches.*



2. Warning  
Falling Trees!  
Trees and branches in this area may fall without warning causing serious injury or death.  
If you proceed, be alert!

*This is a site specific sign, which is to be posted in close proximity to the potential hazard of falling trees and branches, most notably when entering the burn unit itself.*



**RECOMMENDATIONS:**

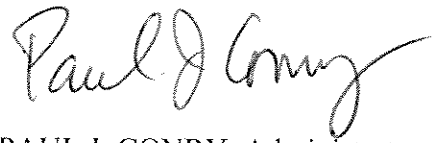
That the Board:

1. Approve the design of the signs for the a) Entrance and b) Site Specific Hazard signs as shown on Exhibit 1.
2. Approve the placement of the signs in Kula and Kahikinui Forest Reserves and Polipoli State Recreational Area as shown on Exhibit 2.

Respectfully submitted,



DANIEL QUINN, Administrator



PAUL J. CONRY, Administrator

Attachments:

- Exhibit 1: Entrance Hazard Sign and Site Specific Hazard Sign (Contains the Codes for Identification of Sign Placement for Exhibit 2).
- Exhibit 2: Maps Depicting the Placement of Hazard Signs in Kula and Kahikinui Forest Reserves and Polipoli Springs State Recreational Area.

APPROVED FOR SUBMITTAL:



Laura H. Thielen, Chairperson

Exhibit 1

**Entrance Hazard Sign**

**Code WFTE**



**Site Specific Hazard Sign**

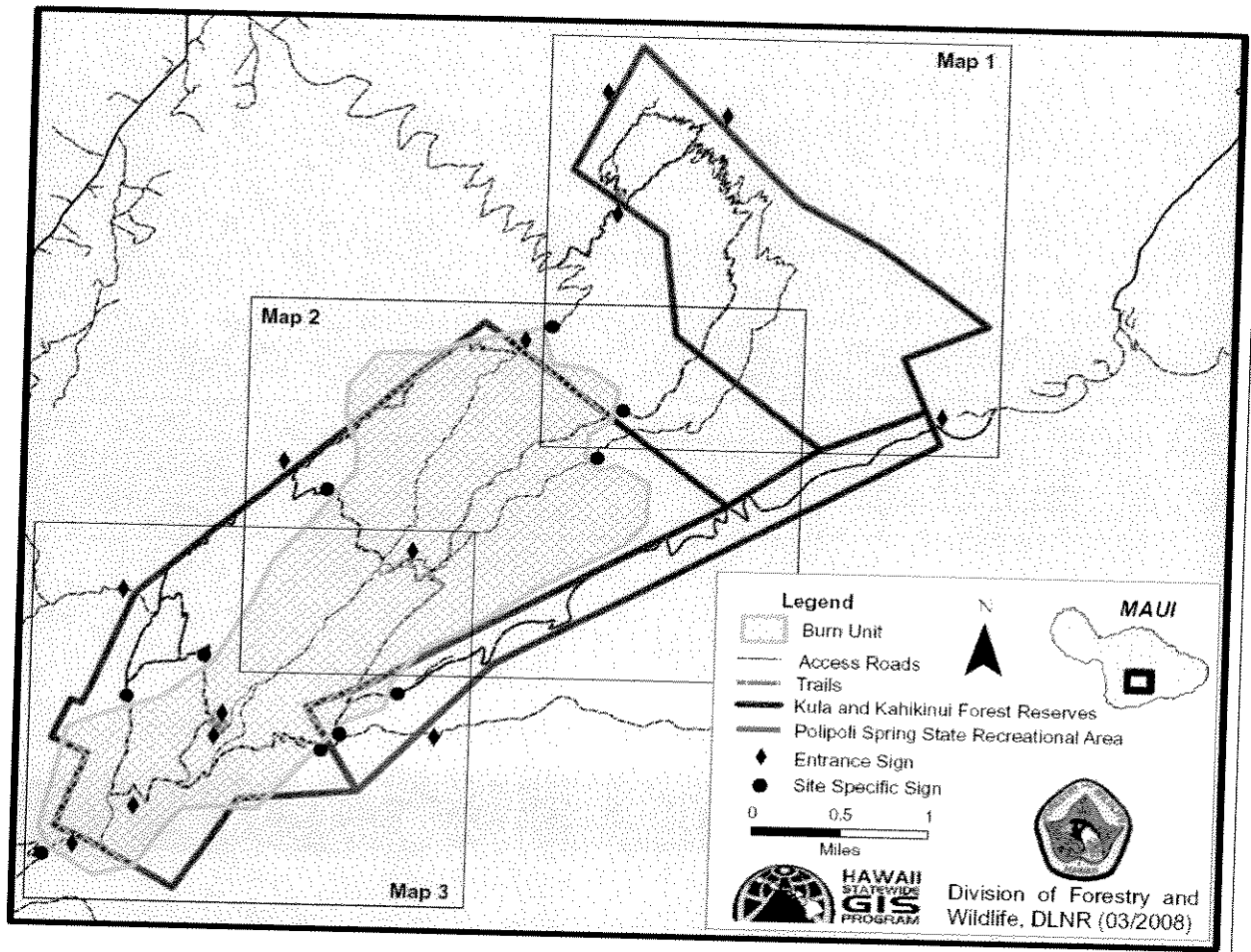
**Code WFTS**



## Exhibit 2

DLNR Division: DOFAW

Island: Maui



Map of entire pertinent area, including the full burn unit affecting Kula and Kahikinui Forest Reserves and Polipoli State Recreation Area.

Squares marked Map 1, Map 2, and Map 3 are guides to the following more detailed sign placement maps.

Overall, there are 23 signs to be placed; 11 entrance hazard signs (code WFTE) and 12 site specific warning signs (code WFTS).

## Exhibit 2

### MAP 1

DLNR Division: DOFAW

Island: Maui

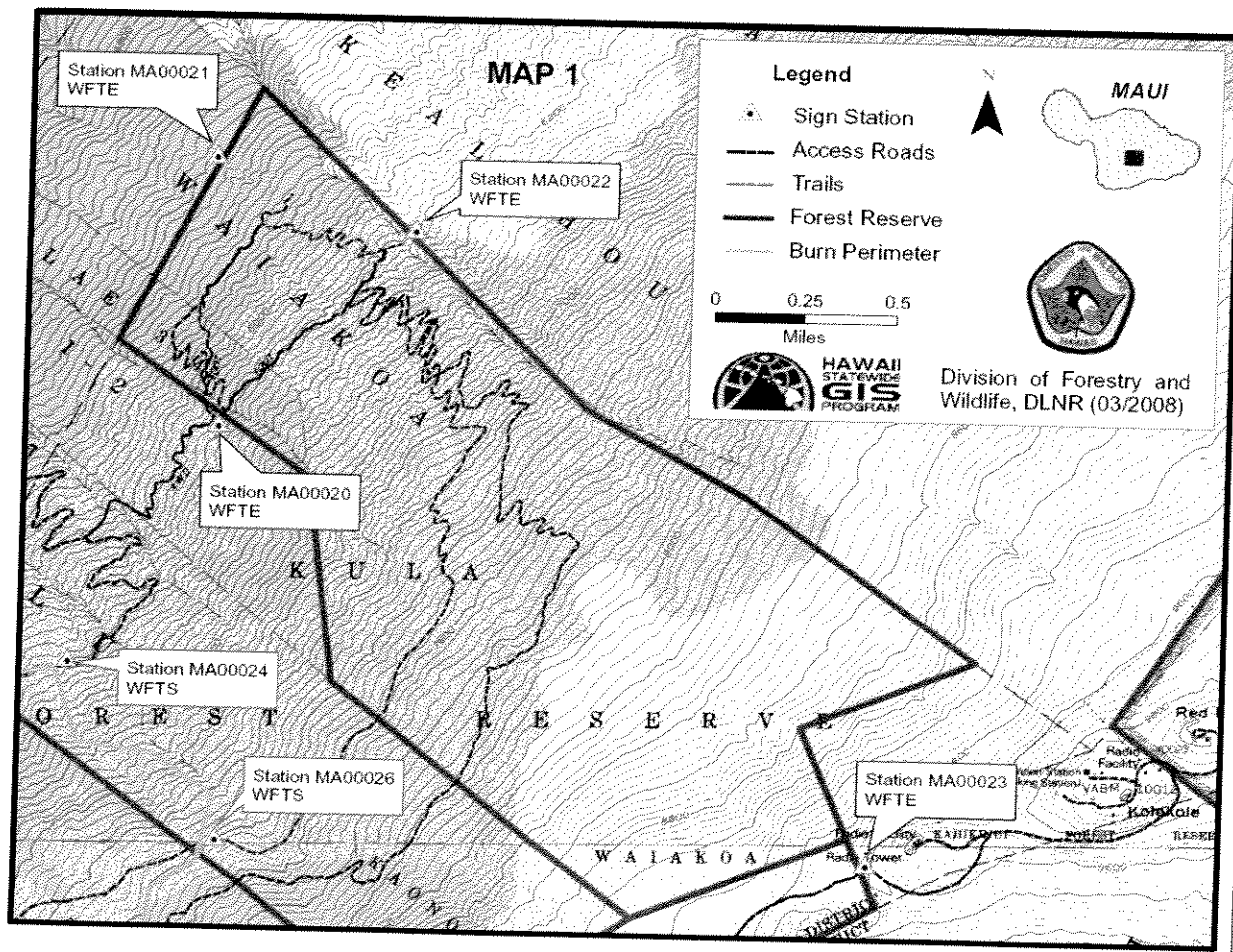
**Exposure to natural conditions:** Falling trees and branches

#### **Entrance Hazard Signs:**

Station: MA00020	Warning Falling Trees	WFTE
Station: MA00021	Warning Falling Trees	WFTE
Station: MA00022	Warning Falling Trees	WFTE
Station: MA00023	Warning Falling Trees	WFTE

#### **Site Specific Hazard Signs:**

Station: MA00024	Warning Falling Trees	WFTS	(overlaps Map 2)
Station: MA00026	Warning Falling Trees	WFTS	(overlaps Map 2)



## Exhibit 2

### MAP 2

DLNR Division: DOFAW

Island: Maui

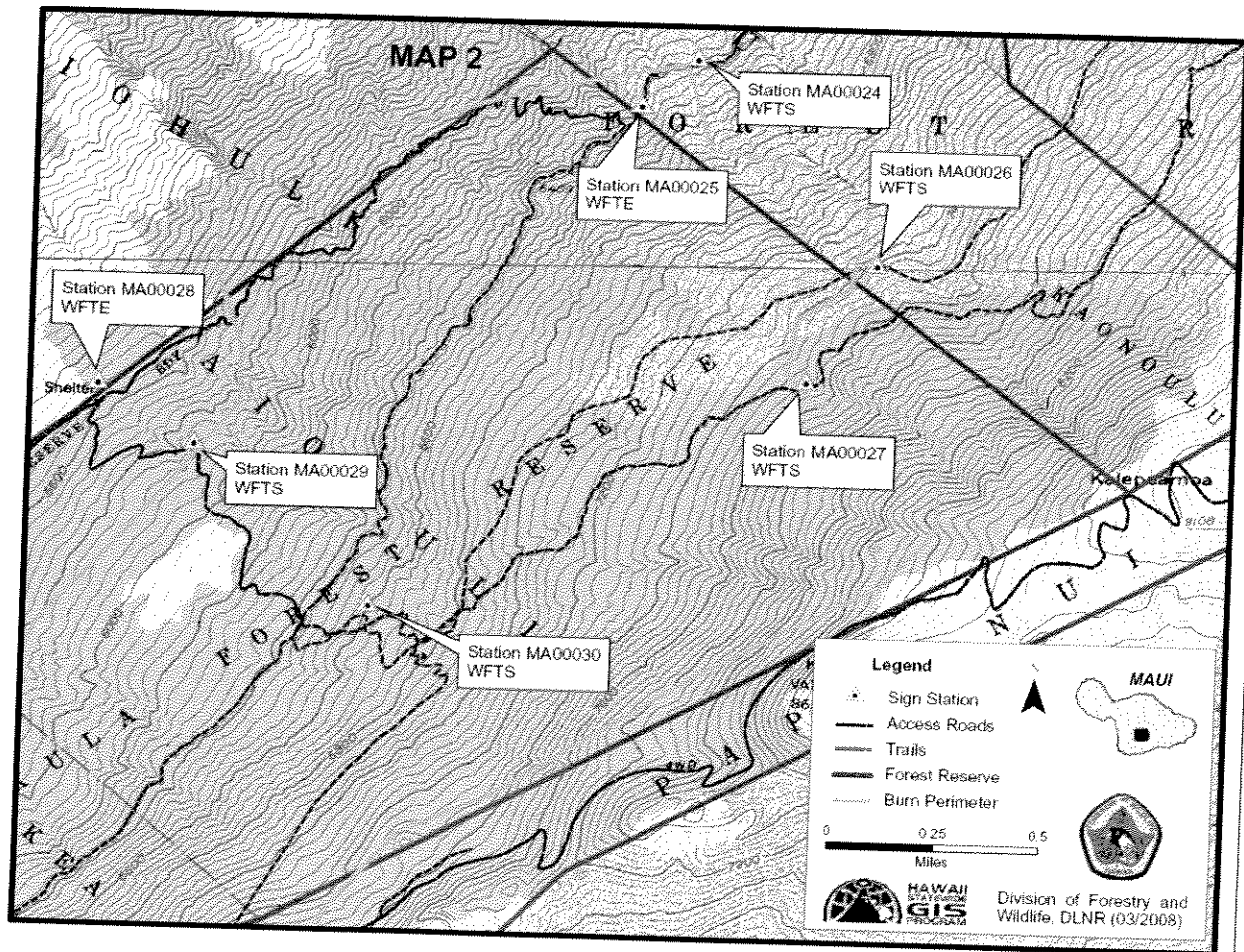
**Exposure to natural conditions:** Falling trees and branches

#### **Entrance Hazard Signs:**

Station: MA00025	Warning Falling Trees	WFTE
Station: MA00028	Warning Falling Trees	WFTE

#### **Site Specific Hazard Signs:**

Station: MA00024	Warning Falling Trees	WFTS	(overlaps Map 1)
Station: MA00026	Warning Falling Trees	WFTS	(overlaps Map 1)
Station: MA00027	Warning Falling Trees	WFTS	
Station: MA00029	Warning Falling Trees	WFTS	
Station: MA00030	Warning Falling Trees	WFTS	(overlaps Map 3)





## Exhibit 2

### MAP 3

**DLNR Division: DOFAW**

**Island: Maui**

**Exposure to natural conditions:** Falling trees and branches

#### **Entrance Hazard Signs:**

Station: MA00031	Warning Falling Trees	WFTE
Station: MA00037	Warning Falling Trees	WFTE
Station: MA00039	Warning Falling Trees	WFTE
Station: MA00041	Warning Falling Trees	WFTE
Station: MA00042	Warning Falling Trees	WFTE

#### **Site Specific Hazard Signs:**

Station: MA00030	Warning Falling Trees	WFTS	(overlaps Map 2)
Station: MA00032	Warning Falling Trees	WFTS	
Station: MA00033	Warning Falling Trees	WFTS	
Station: MA00034	Warning Falling Trees	WFTS	
Station: MA00035	Warning Falling Trees	WFTS	
Station: MA00036	Warning Falling Trees	WFTS	
Station: MA00038	Warning Falling Trees	WFTS	
Station: MA00040	Warning Falling Trees	WFTS	

